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PLAN FOR FUTURE ONGOING MONITORING AND VERIFICATION OF IRAQ'S COMPLIANCE WITH RELEVANT PARTS OF SECTION C OF SECURITY COUNCIL RESOLUTION 687 (1991)

REPORT OF THE SECRETARY-GENERAL (S/22871/Rev.1)

REVISED ANNEXES II, III AND IV

Note by the Executive Chairman of the Special Commission established pursuant to paragraph 9 (b) (i) of Security Council resolution 687 (1991)

1. On 2 October 1991, the Secretary-General submitted to the Security Council a report containing the Special Commission's plan for ongoing monitoring and verification of Iraq's compliance with relevant parts of section C of Security Council resolution 687 (1991). That plan (S/22871/Rev.1) was approved by the Security Council in its resolution 715 (1991) of 11 October 1991.

2. The plan contained annexes with lists of items relevant to the implementation in Iraq of monitoring and verification. As indicated in the report, these lists "should be taken into account in the development of a mechanism related to the sale or supply of items to Iraq by other countries". Paragraph 7 of resolution 715 (1991) calls for that mechanism to be developed in cooperation by the Committee established under resolution 661 (1990) (i.e. the Sanctions Committee), the Special Commission and the Director-General of the International Atomic Energy Agency (IAEA). The mechanism, as developed by the Sanctions Committee, the Special Commission and IAEA, will be transmitted shortly to the Council for its approval.

3. In the course of developing the mechanism, it became clear that, for the annexes to the plan to serve, as intended, as the lists of items to be reported by the exporting countries to the Special Commission and IAEA, it was necessary to elaborate upon generic descriptions in those annexes so that customs and control authorities would know precisely what items would be subject to notification. Consequently, with international expert assistance, the Special Commission has prepared a revision of the annexes to its plan in the chemical, biological and missile areas. These revised annexes do not materially differ

from the original annexes, elaborating instead on those annexes to produce a precise listing of items to be notified under the export/import mechanism.

4. The Special Commission's plan, as approved by the Security Council resolution 715 (1991), lays down in its paragraph 26 the following procedure for revising the annexes:

> "The Special Commission may, however, after informing the Security Council, update and revise the annexes in the light of information and experience gained in the course of implementation of resolutions 687 (1991) and 707 (1991) and of the Plan. The Special Commission shall inform Iraq of any such change."

5. In compliance with the foregoing procedure requiring it to inform the Council of revisions to the annexes, the Special Commission is transmitting herewith to the Council the text of the revised annexes. The Commission intends to proceed to notify Iraq of the revised annexes 30 days after the date of the submission of the present note to the Security Council, thus completing the procedure for revision, unless the Council instructs it otherwise.

Revised annex II to the Special Commission's Plan*

Provisions related to chemical items

1. The following list contains chemicals 1/ capable of being used for the development, production or acquisition of chemical weapons, but which also are usable for purposes not prohibited by resolution 687 (1991) and, therefore, are subject to monitoring and verification in accordance with paragraphs 29, 30 and 31 of the Plan.

List A

	Chemical	Chemical Abstracts Service (CAS) Registry No.
1.1	Chemicals, except for those chemicals specified in list B of this annex, containing a phosphorus atom to which is bonded one H, alkyl or alkyl substitute group but no further carbon atoms e.g. Methyl thiophosphonyl dichloride	(676-98-2)
1.2	Dialkyl or dialkyl-substituted (Me, monochloro-M, Et, n-Pr or i-Pr) N,N-dialkyl or N,N-dialkyl substitutes (Me, Et, n-Pr or i-Pr)-phosphoramidates e.g. Diethyl N,N-dimethylphosphoramidate	(2404-03-7)
1.3	Arsenic trichloride	(7784-34-1)
1.4	2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid)	(76-93-7)
1.5	Quinuclidin-3-ol Quinuclidin-3-ol hydrochloride	(1619-34-7) (6238-13-7)

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* The present annexes are being published as received, without formal editing.

1/ For the purposes of this annex the chemicals listed include their chemical forms and mixtures. It is understood that, if and when other processes are developed for the production of such chemicals, chemicals used in those processes which are not included in the present list shall be added through a revision of this list in accordance with the procedures detailed in paragraph 26 of the Plan.

	Chemical	Chemical Abstracts Service (CAS) Registry No.
1.6	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chloride and corresponding protonated salts e.g. N,N-diisopropyl-2-aminoethyl chloride hydrochloride	(4261-68-1)
1.7	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ol and corresponding protonated salts e.g. N,N-Diisopropyl-2-aminoethanol	(96-80-0)
1.8	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiol and corresponding protonated salts e.g. N,N-Diisopropyl-2-aminoethanethiol	(5842-07-9)
1.9	Phosgene	(75-44-5)
1.10	Cyanogen chloride	(506-77-4)
1.11	Hydrogen cyanide	(74-90-8)
1.12	Trichloronitromethane (chloropicrin)	(76-06-2)
1.13	Phosphorus oxychloride	(10025-87-3)
1.14	Phosphorus trichloride	(7719-12-2)
1.15	Phosphorus pentachloride	(10026-13-8)
1.16	Trimethyl phosphite (TMP)	(121-45-9)
1.17	Triethyl phosphite	(122-52-1)
1.18	Dimethyl phosphite (DMP)	(868-85-9)
1.19	Diethyl phosphite	(762-04-9)
1.20	Diisopropylphosphite	(1809-20-7)
1.21	Triisopropylphosphite	(116-17-6)
1.22	Sulphur monochloride	(10025-67-9)
1.23	Sulphur dichloride	(10545-99-0)
1.24	Thionyl chloride	(7719-09-7)

	Chemical	Chemical Abstracts Service (CAS) Registry No.
1.25	Cyclohexanol	(108-93-0)
1.26	Hydrogen fluoride	(7664-39-3)
1.27	Ortho-chlorobenzylidenemalononitrile (CS)	(2698-41-1)
1.28	Potassium fluoride	(7789-23-3)
1.29	Ammonium bifluoride	(1341-49-7)
1.30	Sodium bifluoride	(1333-83-1)
1.31	Sodium fluoride	(7681-49-4)
1.32	Potassium bifluoride	(7789-29-9)
1.33	Sodium sulphide	(1313-82-2)
1.34	Hydrogen sulphide	(7783-06-4)
1.35	Carbon disulphide	(75-15-0)
1.36	Phosphorus pentasulphide	(1314-80-3)
1.37	Chloroethanol	(107-07-3)
1.38	Isopropanol	(67-63-0)
1.39	Dimethylamine	(124-40-3)
1.40	Dimethylamine hydrochloride	(506-59-2)
1.41	Potassium cyanide	(151-50-8)
1.42	Sodium cyanide	(143-33-9)
1.43	Triethanolamine	(102-71-6)
1.44	Triethanolamine hydrochloride	(637-39-8)
1.45	Diisopropylamine	(108-18-9)
1.46	Diisopropylamine hydrochloride	(819-79-4)
1.47	Methyl diethanolamine	(105-59-9)
1.48	Methyl diethanolamine hydrochloride	(54060-15-0)

	Chemical	Chemical Abstracts Service (CAS) Registry No.
1.49	Ethyl diethanolamine	(139-87-7)
1.50	Ethyl diethanolamine hydrochloride	(58901-15-8)
1.51	Methyl benzilate	(76-89-1)
1.52	O,O-Diethyl phosphorothioate	(2465-65-8)
1.53	O,O-Diethyl phosphorodithioate	(298-06-6)
1.54	Ethylene oxide	(75-21-8)
1.55	Propylene oxide	(75-56-9)
1.56	Hydroxy-1-methylpiperidine	(3554-74-3)
1.57	Hydroxy-1-methylpiperidine hydrochloride	(164-45-6)
1.58	Quinuclidone	(3731-38-2)
1.59	Quinuclidone hydrochloride	(1193-65-3)
1.60	Phosphorus	(7723-14-0)
1.61	Sulphur	(7704-34-9)
1.62	Chlorine	(7782-50-5)
1.63	Fluorine	(7782-41-4)

2. The following list contains chemicals 2/ that have little or no use except as chemical warfare agents or for the development, production or acquisition of chemical weapons, or which have been used by Iraq as essential precursors for chemical weapons and are, therefore, prohibited to Iraq save under the procedure for special exceptions provided for in paragraph 32 of the Plan.

2/ It is understood that, if and when new chemical warfare agents are developed or other processes are used for their production, those chemical warfare agents and the chemicals used in those processes which are not included in the present list shall be added through a revision to this list in accordance with the procedures detailed in paragraph 26 of the Plan.

List B

	Chemical	Chemical Abstracts Service (CAS) Registry No.
2.1	O-Alkyl ($\leq C_{10}$, including cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates e.g. O-Isopropyl methylphosphonofluoridate (Sarin)	(107-44-8)
	O-Pinacolyl methylphosphonofluoridate (Soman)	(96-64-0)
2.2	O-Alkyl ($\leq C_{10}$- including cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates e.g. O-ethyl N,N-dimethylphosphoramidocyanidate (Tabun)	(77-81-6)
2.3	O-Alkyl (H or $\leq C_{10}$, including cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates or corresponding alkylated and protonated salts e.g. O-Ethyl S-2{-(N,N-diisopropylamino)ethyl} methylphosphonothiolate (VX)	(50782-69-9)
2.4	Sulphur mustards:	
	2-Chloroethylchloromethylsulphide	(2625-76-5)
	Bis (2-chloroethyl) sulphide (Mustard gas, H)	(505-60-2)
	Bis(2-chloroethylthio)methane	(63869-13-6)
	1, 2-Bis(2-chloroethylthio)ethane (Sesquimustard, Q)	(3563-36-8)
	1,3-Bis(2-chloroethylthio)-n-propane	(63905-10-2)
	1,4-Bis(2-chloroethylthio)-n-butane	(142868-93-7)
	1,5-Bis(2-chloroethylthio)-n-pentane	(142868-94-8)
	Bis(2-chloroethylthiomethyl)ether	(63918-90-1)
	Bis(2-chloroethylthioethyl)ether (O-Mustard, T)	(63918-89-8)
2.5	Lewisites:	
	2-Chlorovinyldichlorarsine (Lewisite 1)	(541-25-3)
	Bis(2-chlorovinyl)chloroarsine (Lewisite 2)	(40334-69-8)
	Tris(2-chlorovinyl)arsine (Lewisite 3)	(40334-70-1)

	Chemical	Chemical Abstracts Service (CAS) Registry No.
2.6	Nitrogen mustards:	
	Bis(2-chloroethyl)ethylamine (HN 1)	(538-07-8)
	Bis(2-chloroethyl)methylamine (HN 2)	(51-75-2)
	Tris(2-chloroethyl)amine (HN 3)	(555-77-1)
	and their protonated salts	
2.7	3-Quinuclidinyl benzilate (BZ)	(6581-06-2)
2.8	Saxitoxin	(35523-89-8)
2.9	Ricin	(9009-86-3)
2.10	Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldihalides e.g. Methylphosphonyldifluoride (DF	(676-99-3)
	Methylphosphonyldichloride (DC, MPC)	(676-97-1)
2.11	Dimethylmethylphosphonate (DMMP)	(756-79-6)
2.12	O-Alkyl (H or $\leq C_{10}$, including cycloalkyl) O-2-Dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonites and corresponding alkylated salts and protonated salts e.g. O-Ethyl 2-diisopropylaminoethyl methylphosphonite (QL)	(57856-11-8)
2.13	O-Alkyl ($\leq C_{10}$, including cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonochloridates e.g. O-Isopropyl methylphosphonochloridate (Chlorosarin)	(1445-76-7)
	O-Pinacolyl methylphosphonochloridate (Chlorosoman)	(7040-57-5)
2.14	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides e.g. N,N-dimethylphosphoramidic dichloride	(677-43-0)

	Chemical	Chemical Abstracts Service (CAS) Registry No.
2.15	Bis(2-hydroxyethyl)sulphide (Thiodiglycol)	(111-48-8)
	Bis(2-hydroxyethyl)disulphide (Dithiodiglycol)	(1892-29-1)
2.16	3,3-Dimethylbutan-2-ol (Pinacolyl alcohol)	(464-07-3)
2.17	3,3-Dimethylbutanone (Pinacolone)	(75-97-8)
2.18	Amiton: O,O-Diethyl S-(2-(diethylamino)ethyl)) phosphorothiolate and corresponding alkylated and protonated salts	(78-53-5)
2.19	PFIB: 1,1,3,3,3-pentafluoro-2-(trifluoromethyl)-1-propene	(382-21-8)

3. The initial information under paragraph 30 of the Plan, to be provided not later than 30 days after the adoption of the Plan by the Security Council, shall cover the period from 1 January 1988. Subsequent information shall be provided each 15 January and 15 July and shall cover the six-month period prior to the provision of the information. The advance notifications under paragraph 30 (d) of the Plan shall cover the subsequent six months. The special notifications under paragraph 31 of the Plan shall be provided not later than 30 days in advance.

4. Whenever the information that Iraq is required to provide under section C of the Plan and this annex is equal to nil, Iraq shall provide nil returns.

5. The information on chemicals to be provided under section C of the Plan shall, for each chemical, include:

5.1 the chemical name, common or trade name used by the site or the facility, structural formula and Chemical Abstracts Service registry number (if assigned);

5.2 the purposes for which the chemical is produced, processed, consumed, stored, imported or exported; and

5.3 the total amount produced, processed, consumed, stored, imported or exported.

6. The information on sites or facilities to be provided under section C of the Plan shall, for each site or facility, include:

6.1 the name of the site or facility and of the owner, company or enterprise operating the site or facility;

6.2 the location of the site or facility;

6.3 a general description of all types of activities at the site or facility; and

6.4 the sources and amounts of the financing of the site or facility, and of its activities.

7. The location of a site or facility shall be specified by means of the address and a site diagram. Each diagram shall be drawn to scale and shall indicate the boundaries of the site or facility, all road and rail entrances and exits and all structures on the site or facility, indicating their purpose. If the site or facility is located within a larger complex, the diagram shall specify the exact location of the site or facility within the complex. On each diagram, the geographic coordinates of a point within the site or facility shall be specified to the nearest second.

8. In addition to information specified in paragraph 6 of this annex, the following information shall be provided for each site or facility that is or will be involved in production, processing, consumption, storage, import or export of chemicals specified in list A of this annex:

8.1 a detailed description of activities related to these chemicals including, as applicable, material-flow and process-flow diagrams, chemical reactions and end-use;

8.2 a list of equipment used in activities related to these chemicals; and

8.3 the production capacity for these chemicals.

9. In addition to information specified in paragraph 6 of this annex, the following information shall be provided for each site or facility that is or will be involved in production or processing of organophosphorus chemicals or in production of organic chemicals by halogenation:

9.1 a detailed description of activities related to the relevant chemicals, and the end-uses for which the chemicals are produced or processed; and

9.2 a detailed description of the processes used in the production or processing of organophosphorus chemicals or in the production of organic chemicals by halogenation, including material-flow and process-flow diagrams, chemical reactions and list of equipment involved.

10. For equipment capable of being used in the activities described in paragraphs 8 and 9 above, Iraq shall, for each item, declare:

10.1 the name of the site or facility at which it is located together with the names of the owner, company or enterprise operating the site or facility;

10.2 the location of the site or facility;

10.3 the technical specifications of the equipment that make it capable of dual-use, including, where relevant, the material of construction, capacity, specifications of control mechanisms, temperature and pressure tolerances and flow-rates; and

10.4 any import or any other acquisition of such equipment.

Such equipment shall include:

10.4.1 corrosion resistant 3/ chemical production equipment as follows:

3/ For the purposes of this annex, "corrosion resistant" means where all surfaces that come in direct contact with the chemical(s) being processed are made from the following:

(a) glass (including vitrified or enamelled coatings or glass lining);

(b) ceramics;

(c) ferrosilicates;

(d) titanium or titanium alloys (e.g. Monel 10 or 11, titanium 20, titanium nitride 70 or 90);

(e) tantalum or tantalum alloys;

(f) zirconium or zirconium alloys;

(g) nickel or alloys with more than 40 per cent nickel by weight (e.g. Alloy 400, AMS 4675, ASME SB164-B, ASTM B127, DIN2.4375, EN60, FM60, IN60, Hastalloy, Monel, K500, UNS NO4400);

(h) alloys with more than 25 per cent nickel and 20 per cent chromium and/or copper by weight (e.g. Cunifer 30Cr, ENiCu-7, IN 732 X, Monel 67, Monel WE 187, UNS C71900);

(i) graphite;

(j) fluoropolymers (e.g. Aflex COP, Aflon COP 88, F 40, Ftorlon, Ftoroplast, Neoflon, ETFE, Teflon, PVDF, Tefzel, PTFE, PE TFE 500 LZ, Haller);

(k) natural or synthetic rubber coatings;

(l) fibre reinforced polymers including glass or graphite; and

(m) silver.

10.4.1.1 reactor vessels with a capacity of 0.050 m^3 or more;

10.4.1.2 condensers and heat exchangers;

10.4.1.3 distillation columns;

10.4.1.4 scrubbers;

10.4.1.5 tanks and other storage vessels 4/ with a volume of 0.05 m^3 or more; and

10.4.1.6 sheets made of corrosion resistant metal or alloy with a surface of more than 1 m^2 and a thickness of 4 mm or more;

10.4.2 corrosion resistant pumps with a maximum flow-rate of 0.01 m^3 per minute or more (under standard temperature of 293 K, i.e. 20° C, and standard pressure conditions of 101.30 kPa, i.e. 101.30 kilonewton per square metre), including magnetic pumps and those using squeezers or progressive cavity tubing pumps (including peristaltic or roller pumps in which only the elastometric tubing is corrosion resistant), and corrosion resistant vacuum pumps with a maximum flow-rate of 0.08 m^3 per minute or more under the same standard conditions;

10.4.3 corrosion resistant pipes with an inner diameter of 12.5 mm or more and double-walled pipes with an inner diameter of 12.5 mm or more;

10.4.4 corrosion resistant valves with a smallest inner diameter of 12.5 mm or more;

10.4.5 corrosion resistant remote-controlled filling equipment;

10.4.6 incineration equipment designed for the disposal of toxic chemicals with an average combustion chamber temperature of over 1273 K (1000° C) or with catalytic incineration over 623 K (350° C);

10.4.7 equipment and instruments 5/ capable of detecting, measuring or recording the air concentration of toxic organic substances or organic compounds containing the elements chlorine, fluorine, phosphorus or sulphur with a detection threshold from 0.3 mg/m^3 or suitable for detection or measuring levels of cholinesterase-inhibitors in the air; and

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4/ Including halogen transport containers.

5/ Including equipment for the detection or identification of chemical warfare agents, but excluding smoke detectors or stack emission monitor systems designed for use in household protection.

10.4.8 protective equipment designed for protection against toxic chemicals in lists A and B, as follows:

10.4.8.1 external ventilated semi- or full-protection personal suits;
10.4.8.2 autonomous respirators; and
10.4.8.3 air filtration equipment with liquid or solid adsorption agent.

11. For equipment identified in paragraph 10.4.1.5 of this annex capable of storing chemicals in lists A and B, Iraq shall, for each item, declare:

11.1 the name of the site or facility at which it is located together with the names of the owner, company or enterprise operating the site or facility;

11.2 the location of the site or facility;

11.3 the net storage capacity of each piece of equipment and the aggregate storage capacity at the site; and

11.4 any import or any other acquisition of such equipment.

12. For the purposes of information to be provided in accordance with paragraph 30 (e) of the Plan concerning technologies, Iraq shall report the import or other acquisition of any technologies or services for planning, construction, commissioning, start up or normal operation of a chemical production plant capable of producing any chemical in list A or to operate and maintain the equipment identified in paragraphs 10 and 11 above.

13. For munitions, rockets and missile warheads capable of dispersing chemical warfare agents, Iraq shall, for each item, declare:

13.1 the name of the site or facility at which it is located together with the names of the owner, company or enterprise operating the site or facility;

13.2 the location of the site or facility;

13.3 the quantity of such items by type; and

13.4 any import or any other acquisition of such items.

14. The information on each import to be provided under section C of the Plan and paragraphs 10, 11 and 13 of this annex shall include:

14.1 specification of each item and the quantity imported and the purpose of its use in Iraq;

14.2 country from which the item is imported and the specific exporter;

14.3 point or port and time of entry of the item into Iraq;

14.4 site or facility where it is to be used; and

14.5 name of the specific importing organization in Iraq.

Revised annex III to the Special Commission's Plan

Provisions related to biological items

1. The following list contains equipment, 1/ biological material and other items capable of being used for the development, production or acquisition of biological and toxin weapons or of a biological and toxin weapons capability and, therefore, subject to monitoring and verification in accordance with paragraphs 34 to 38 of the Plan:

1.1 microorganisms, 2/ other organisms and toxins 3/ meeting the criteria for risk groups IV, III and II according to the classification in the World Health Organization (WHO) Laboratory Biosafety Manual (Geneva 1993, second edition), and genetic material for such toxins;

1.2 detection and assay systems for risk groups IV, III, and II microorganisms and toxins, or for genetic material, including immunological assays, gene probe assays and other specific detection systems;

1.3 equipment designed or accepted for use for processing, handling, transporting or storing microorganisms, their products or components, including toxins, or other biological material including foodstuffs, including:

1.3.1 centrifugal separators or decanters for continuous or semi-continuous operation;

1.3.2 continuous flow centrifuge rotors;

1.3.3 plate press filter separators;

1.3.4 cross-flow or tangential filtration equipment with a filter area of 0.5 square metres or greater;

1.3.5 spray drying equipment;

1/ "Equipment" means complete systems and any components or reagents thereof.

2/ For the purposes of the Plan, full lists of the microorganisms, other organisms and toxins concerned have been enumerated in two lists, one covering risk groups IV and III (List 1), the other covering risk group II (List 2). These lists are contained in an Explanatory Note which follows on the appendix to this annex.

3/ Including purified or crude material.

1.3.6 freeze-drying (lyophilisation) equipment with a condenser capacity greater than 1 kg of ice per 24 hours;

1.3.7 pressure cell disruption equipment or continuous flow ultrasonic cell disruption equipment;

1.3.8 chromatography equipment for preparative separations;

1.3.9 pharmaceutical milling equipment;

1.3.10 drum drying equipment;

1.3.11 jacketed vessels; and

1.3.12 control units, valves and filters for the above types of equipment;

1.4 biohazard containment equipment and decontamination equipment, including:

1.4.1 facilities, rooms or other enclosures meeting the physical containment criteria for P3 or P4 (BL3, BL4, L3, L4) biological containment as defined in the WHO Laboratory Biosafety Manual and using laminar or turbulent air flow clean air conditions as specified for pharmaceutical, biotechnology, vaccine or other applications;

1.4.2 biological safety cabinets meeting Class I, II and III containment standards, as defined in the WHO Laboratory Biosafety Manual;

1.4.3 safety cabinets allowing manual or remote operations to be performed within at Class I, II or III biological containment levels, including flexible film isolators, rigid isolators, dry boxes, glove boxes, anaerobic chambers, interconnected cabinet lines, isolator lines and secondary containment systems designed to enclose fermenters or downstream processing equipment;

1.4.4 rubber gloves specifically designed for use with safety cabinets and biological safety cabinets;

1.4.5 autoclaves, with an internal volume of 0.3 m^3 or more, designed to sterilise infectious material;

1.4.6 other waste disposal systems for infectious material, such as liquid waste treatment systems, solid waste treatment systems, liquid waste disposal systems, solid waste disposal systems and incinerators; and

1.4.7 positive pressure air-fed suits, half suits, helmets and respirators;

1.5 equipment designed or accepted for use for the microencapsulation of living microorganisms, their products or components including toxins, or other biological material;

1.6 complex media for the growth of risk groups IV, III and II microorganisms;

1.7 fermentation vessels (including bioreactors, chemostats and continuous flow systems), orbital or reciprocal shakers and shaking incubators designed or accepted for use for the cultivation of microorganisms or eukaryotic cells or for the production of toxins, and components therefor, including control units for fermenters and other vessels;

1.8 recombinant nucleic acids (DNA and RNA), equipment and reagents 4/ for their isolation, characterization or production and equipment and reagents for the construction of synthetic genes, including nucleic acid sequencing equipment, nucleic acid synthesizers, electroporation or biolistics equipment, thermal cyclers, electrophoresis equipment, transilluminators, automatic work stations and automatic data collection systems, and components therefor, including derivatized solid supports for solid phase nucleotide synthesis;

1.9 equipment for the release and/or dispersal into the environment or into cabinets, chambers, rooms or other enclosures of biological material and equipment capable of being modified for such use, excluding devices designed for personal use in self-administered prophylactic or therapeutic preparations by inhalation, but including crop sprayers, aircraft sprayers and tanks, other sprayers capable of chassis mounting and tanks, jet engine disseminators, aerosol disseminators, droplet disseminators, dry powder disseminators (including dry aerosol disseminators, venturi air movers and nebulisers), mist generators and foggers, including pulse jet disseminators;

1.10 equipment designed or accepted for use for studying the aerobiological characteristics or aerosols of microorganisms, their components including toxins, or other biological material and equipment capable of being modified for such use, including aerosolization containers (drums, cabinets, chambers, rooms or other enclosures), nose-only aerosolization equipment and aerodynamic particle-sizing equipment;

1.11 equipment for breeding of vectors of human, animal or plant diseases;

1.12 vaccines for risk groups IV, III, and II microorganisms, whether for use with humans or animals and whether licensed, unlicensed or experimental;

4/ Including dimethoxytrityl (DMT)-ribonucleosides and dimethoxytrityl (DMT)-deoxyribonucleosides.

1.13 documents, 5/ information, software or technology for the design, development, use, storage, manufacture, maintenance or support of items listed in the preceding subparagraphs of this paragraph, or of biological weapons or any component thereof, or of biological and training activities or defence; and

1.14 munitions, rockets or missile warheads 6/ capable of disseminating biological weapons agents.

2. The initial information under paragraphs 35 and 36 of the Plan to be provided not later than 30 days after the adoption of the Plan by the Security Council shall cover the period from 1 January 1986. Subsequent information shall be provided each 15 January and 15 July and shall cover the six-month period prior to the provision of the information. Notifications under paragraph 38 (a) of the Plan shall be provided not later than 60 days in advance.

3. Whenever the information that Iraq is required to provide under section D of the Plan and this annex is equal to nil, Iraq shall provide nil returns.

4. The information on each site or facility 7/ to be provided under section D of the Plan shall include the following:

4.1 the name of the site or facility and of the owner, company, or enterprise operating the facility;

4.2 the location of the site or facility (including the address, geographic coordinates to the nearest second, and a site diagram. Each diagram shall be drawn to scale and shall indicate the boundaries of the site or facility, all road and rail entrances and all structures, indicating their purpose and any structure number. If the site or facility is located within a larger complex, the diagram shall specify the exact location of the site or facility within the larger complex);

4.3 the sources and amounts of financing of the site or facility and of its activities;

4.4 the main purpose of the site or facility, including research, development, use, production, storage, testing, import and export;

5/ "Documents" means blueprints, plans, diagrams, models, formulae, tables, engineering designs or specifications, manuals or instructions, and any database or software concerning risk groups IV, III and II microorganisms, toxins and genetic material, except those generally available to the public.

6/ Delivery systems are addressed in annex IV.

7/ Including sites or facilities involved in the import, export or storage of the equipment, biological material and other items specified in paragraph 1 of this annex.

4.5 the level of protection, including, as applicable, the number and size of maximum containment or containment laboratories (units);

4.6 scope and description of activities, including, as applicable, a list of types and quantities of microorganisms, toxins or vaccines and equipment and other items specified in paragraph 1 of this annex;

4.7 a list of microorganisms and toxins, equipment and vaccines imported or isolated for the use of the site or facility, or exported, indicating the supplier or recipient countries involved;

4.8 the date when the planned activities, as described in paragraphs 35 (a) to 35 (g) of the Plan, are to begin at the site or facility; and

4.9 the number of scientifically trained personnel and their main areas of responsibility.

5. Information on imports to be provided under paragraphs 35 (g) and 38 (a) of the Plan shall cover the items listed in the appendix to this annex and shall, for each import into Iraq, specify:

5.1 types and quantities of microorganisms, other organisms, toxins, genetic material or vaccines;

5.2 quantities of any equipment, facilities, information, software, technology or other items specified in the appendix to this annex;

5.3 country of export and the specific exporter;

5.4 point or port and time of entry into Iraq;

5.5 site or facility where it is to be used and purpose of its use; and

5.6 name of the specific importing organization in Iraq.

6. The information under paragraph 37 of the Plan shall be provided within seven days of the occurrence and the standardized form contained in section III of the annex on confidence-building measures in document BWC/CONF.III/23/II shall be utilized as appropriate.

7. Iraq shall, not later than each 15 April, provide to the Special Commission the copies of the declarations, information and data that Iraq has sent to the Centre for Disarmament Affairs of the United Nations Secretariat pursuant to the agreements on confidence-building measures, including the exchange of information and data, reached at the Third Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (document BWC/CONF.III/23/II and its annex on confidence-building measures).

APPENDIX

Items to be reported under paragraphs 35 (q) and 38 (a) of the Plan and paragraph 5 of its annex III

1. Risk groups IV and III 1/ microorganisms, 2/ other organisms, toxins, 3/ or genetic material.

2. Biohazard containment and decontamination items as follows:

2.1 facilities, rooms or other enclosures:

(a) meeting the physical containment criteria for P3 or P4 (BL3, BL4, L3, L4) biological containment as specified in the WHO Laboratory Biosafety Manual (Geneva, 1993); and

(b) constructed such that the number of particles of 0.5 microns in diameter in the contained air does not exceed 35,000 particles per cubic metre;

2.2 biological safety cabinets meeting Class I, II, or III standards 4/

1/ For the purposes of the Plan, full lists of the microorganisms, other organisms and toxins concerned have been enumerated in two lists, one covering risk groups IV and III (List 1), the other covering risk group II (List 2). These lists are contained in an Explanatory Note which follows on the appendix to this annex.

2/ "Microorganisms" means bacteria, viruses, mycoplasmas, rickettsiae or fungi, whether natural, enhanced or modified, either in the form of isolated live cultures, including live cultures in dormant form or in dried preparations, or as material including living material which has been deliberately inoculated or contaminated with such cultures.

3/ Including purified or crude material.

4/ The specifications for Class I, II and III biological safety cabinets in the WHO Laboratory Biosafety manual are:

Class I cabinet: an open-fronted, ventilated cabinet for personal protection with an unrecirculated inward air flow away from the operator. It is fitted with a HEPA filter to protect the environment from discharge of microorganisms;

Class II cabinet: an open-fronted, ventilated cabinet for personal, product and environmental protection, which provides an inward air flow and HEPA-filtered supply and exhaust air. There are two main variations: the Class IIA type recirculates 70 per cent of the air; the Class IIB type recirculates 30 per cent of the air; and

as specified in the WHO Laboratory Biosafety Manual, including flexible film isolators, dry boxes, glove boxes, anaerobic chambers, interconnected cabinet lines, isolator lines and secondary containment systems designed to enclose fermenters or downstream processing equipment, and specially designed components therefor;

2.3 HEPA filters; 5/

2.4 rubber gloves specially designed for use with safety cabinets and biological safety cabinets;

2.5 autoclaves designed to sterilise infectious material, with an internal volume equal to or greater than 0.3 cubic metres, and specially designed components therefor; and

2.6 positive pressure air-fed suits, half suits, helmets and respirators, and specially designed components therefor.

3. Fermentation equipment, as follows:

3.1 fermenters, bioreactors, chemostats, and continuous flow fermentation systems and specially designed components therefor;

3.2 other vessels suitable for use for the cultivation of microorganisms or eukaryotic cells or for toxin production, capable of operating without the propagation of aerosols, and capable of in situ steam sterilisation in the closed state, and specially designed components therefor;

3.3 orbital or reciprocal shakers with a total flask capacity greater than 5 litres, and specially designed components therefor; and

3.4 shaking incubators with a total flask capacity greater than 5 litres, and specially designed components therefor.

4. Equipment usable for processing, handling, transporting or storing microorganisms, their products or components excluding personal and household equipment, but including toxins, or other biological material (including foodstuffs), as follows, and specially designed components therefor:

Class III cabinet: a totally enclosed, ventilated cabinet which is gas-tight and is maintained under negative air pressure. The supply air is HEPA-filtered and the exhaust air is passed through two HEPA filters in series. Work is performed with attached long-sleeved gloves.

5/ The WHO Laboratory Biosafety Manual defines HEPA filters as high efficiency particulate air filters. They should conform to national standards and not more than three particles should be recovered when the filter is challenged with a dose of 100,000 particles.

4.1 centrifugal separators or decanters for continuous or semi-continuous operation;

4.2 continuous flow centrifuge rotors;

4.3 plate press filter separators;

4.4 cross-flow and tangential filtration equipment with a filter area equal to or greater than 0.5 m^2;

4.5 spray drying equipment;

4.6 freeze-drying (lyophilisation) equipment with a condenser capacity greater than 1 kg of ice in 24 hours;

4.7 pressure cell disruption and continuous flow ultrasonic cell disruption equipment;

4.8 chromatography columns with internal volumes greater than 2 litres, and specially designed end pieces and flow adaptors for such columns;

4.9 milling equipment capable of producing particle sizes of 10 microns or less;

4.10 drum drying equipment; and

4.11 jacketed vessels.

5. Formulated powdered complex media or concentrated liquid complex media for growth of microorganisms.

6. Detection and assay systems for microorganisms, toxins, or genetic material in List 1 and specially designed reagents therefor, as follows:

6.1 immunological assay systems;

6.2 gene probe assay systems; and

6.3 biological agent detection systems designed for biological defence or civil defence applications.

7. Equipment and reagents for use in molecular biology research, as follows, and specially designed components therefor:

7.1 nucleic acid sequencing equipment;

7.2 nucleic acid synthesizers;

7.3 electroporation or biolistics equipment;

7.4 thermal cyclers;

7.5 specially designed automatic data collection systems;

7.6 transilluminators;

7.7 electrophoresis equipment;

7.8 derivatized solid supports for solid phase nucleotide synthesis;

7.9 dimethoxytrityl (DMT)-ribonucleosides; and

7.10 dimethoxytrityl (DMT)-deoxyribonucleosides.

8. Equipment capable of dispersing aerosols at a flow rate exceeding 1 litre of liquid suspension per minute or 10 g of dry material per minute, as follows, and specially designed components therefor:

8.1 crop sprayers;

8.2 aircraft sprayers and associated spray tanks;

8.3 other sprayers, capable of chassis mounting, and associated spray tanks;

8.4 jet engine disseminators;

8.5 aerosol disseminators;

8.6 droplet disseminators;

8.7 dry powder disseminators; 6/

8.8 mist generators; and

8.9 foggers. 7/

9. Equipment usable in the study of aerosols, as follows, and specially designed components therefor:

9.1 aerosolization drums, cabinets, chambers, rooms or other enclosures;

9.2 nose-only aerosolization equipment but not devices for personal prophylaxis or therapy for medical conditions; and

9.3 aerodynamic particle-sizing equipment.

6/ Including dry aerosol disseminators, venturi air movers and nebulisers.

7/ Including pulse jet disseminators.

10. Equipment designed for the microencapsulation of living organisms, their products or components including toxins, or other biological material.

11. Vaccines for microorganisms or toxins in List 1, whether for use with humans or animals and whether licensed, unlicensed or experimental.

12. Documents, 8/ information, software or technology for the design, development, use, storage, manufacture, maintenance or support of entries 1 to 11 above, or of biological weapons or any component thereof, or of biological defence and training activities or defence.

13. Munitions, rockets and missile warheads 9/ capable of disseminating biological weapons agents.

8/ "Document" means blueprints, plans, diagrams, models, formulae, tables, engineering designs or specifications, manuals or instructions, and any database or software pertaining to microorganisms, toxins and genetic material of List 1 items except those containing information generally available to the public.

9/ Delivery systems are addressed in annex IV.

EXPLANATORY NOTE

UNSCOM Biological Lists based on the classification in the World Health Organization (WHO) Laboratory Biosafety Manual

LIST 1 - Risk Groups IV and III Microorganisms, 10/ other Organisms and Toxins

1.1 Bacteria

1.1.1 Bacillus anthracis
1.1.2 Bacillus cereus
1.1.3 Bacillus subtilis
1.1.4 Bacillus megaterium
1.1.5 Bacillus thuringensis
1.1.6 Brucella abortus
1.1.7 Brucella melitensis
1.1.8 Brucella suis
1.1.9 Chlamydia psittaci
1.1.10 Clostridium botulinum
1.1.11 Clostridium perfringens
1.1.12 Francisella tularensis
1.1.13 Pseudomonas mallei
1.1.14 Pseudomonas pseudomallei
1.1.15 Salmonella typhi (Salmonella enterica var typhi)
1.1.16 Serratia marcescens
1.1.17 Shigella dysenteriae
1.1.18 Vibrio cholera
1.1.19 Yersinia pestis (Yersinia pseudotuberculosis var pestis)
1.1.20 Xanthomonas albilineans
1.1.21 Xanthomonas campestris pv. citri including strains referred to as Xanthomonas campestris pv. citri types A,B,C,D,E or otherwise classified as Xanthomonas citri, Xanthomonas campestris pv. aurantifolia or Xanthomonas campestris pv. citrumelo

1.2 Mycoplasma

1.2.1 Mycoplasma mycoides

1.3 Rickettsiae

1.3.1 Coxiella burnetii
1.3.2 Rickettsia prowasecki
1.3.3 Rickettsia quintana
1.3.4 Rickettsia rickettsii

10/ The items in this list do not conform fully with the criteria for risk groups IV and III according to the classification in the 1983 World Health Organization (WHO) Laboratory Biosafety Manual but should be considered as doing so for the purposes of ongoing monitoring and verification activities in Iraq.

1.4 Viruses

1.4.1 African swine fever virus
1.4.2 Avian influenza virus
1.4.3 Bluetongue virus
1.4.4 Chikungunya virus
1.4.5 Congo-Crimean haemorrhagic fever virus
1.4.6 Dengue fever virus
1.4.7 Eastern equine encephalitis virus
1.4.8 Ebola virus
1.4.9 Foot and mouth disease virus
1.4.10 Goat pox virus
1.4.11 Hantaan virus
1.4.12 Human influenza
1.4.13 Japanese encephalitis virus
1.4.14 Junin virus
1.4.15 Lassa fever virus
1.4.16 Lymphocytic choriomeningitis virus
1.4.17 Lyssa virus
1.4.18 Machupo virus
1.4.19 Marburg virus
1.4.20 Monkey pox virus
1.4.21 Newcastle disease virus
1.4.22 Peste des petits ruminants virus
1.4.23 Porcine herpes virus (Aujeszky's disease)
1.4.24 Rift Valley fever virus
1.4.25 Rinderpest virus
1.4.26 Sheep pox virus
1.4.27 Swine fever virus (Hog cholera virus)
1.4.28 Swine vesicular disease (Porcine enterovirus type 9)
1.4.29 Teschen disease virus
1.4.30 Tick-borne encephalitis virus (Russian Spring-Summer encephalitis virus)
1.4.31 Variola virus
1.4.32 Venezuelan equine encephalitis virus
1.4.33 Vesicular stomatitis virus
1.4.34 Western equine encephalitis virus
1.4.35 White pox virus
1.4.36 Yellow fever virus

1.5 Toxins

1.5.1 Abrin
1.5.2 Botulinum toxins
1.5.3 Clostridium perfringens toxins
1.5.4 Conotoxin
1.5.5 Diphtheria exotoxin
1.5.6 Microcystins (Cyanginosins)
1.5.7 Modeccin
1.5.8 Pseudomonas exotoxin

1.5.9 Ricin 11/
1.5.10 Saxitoxin 2/
1.5.11 Shiga toxin
1.5.12 Staphylococcus aureus toxins
1.5.13 Tetrodotoxin
1.5.14 Verotoxin
1.5.15 Volkensin

1.6 Fungi

1.6.1 Colletotrichum cof feanum var. virulans
1.6.2 Cochliobolus miyabeanus (Helminthosporium oryzae)
1.6.3 Magnaporthe grisea (Pyricularia grisea/Pyricularia oryzae)
1.6.4 Microcyclus ulei (syn. Dothidella ulei)
1.6.5 Puccinia graminis (syn. Puccinia graminis f. sp. tritici)
1.6.6 Puccinia striiformis (syn. Puccinia glumarum)

1.7 Other organisms

1.7.1 Eukaryotic (non-microbial) organism which produce any listed toxin.

1.8 Genetically modified microorganisms, other organisms and genetic material

1.8.1 The above listed microorganisms when they have been genetically modified.
1.8.2 Other genetically modified microorganisms or genetic material that contain nucleic acid sequences derived from any of the listed microorganisms, or that contain nucleic acid sequences associated with pathogenicity determinants of any listed microorganism; or that contain nucleic acid sequences associated with any listed toxin.
1.8.3 Genetically modified variants of eukaryotic (non-microbial) organisms which produce any listed toxin.

11/ Items 1.5.9 and 1.5.10 are prohibited to Iraq save under the procedure of special exceptions provided for in paragraph 32 of the Plan.

LIST 2 - RISK GROUP II MICROORGANISMS, 12/ OTHER ORGANISMS AND TOXINS

(A) HUMAN AND ANIMAL PATHOGENS

Bacteria

Actinobacillus actinomycetemcomitans
Actinomadura madurae
Actinomadura pelletieri
Actinomyces gerencseriae
Actinomyces israelii
Actinomyces pyogenes
Actinomyces spp
Arcanobacterium haemolyticum (Corynebacterium haemolyticum)
Bacteriodes fragilis
Bartonella bacilliformis
Bordetella bronchiseptica
Bordetella parapertussis
Bordetella pertussis
Borrelia burgdorferi
Borrelia duttonii
Borrelia recurrentis
Borrelia spp
Brucella canis
Campylobacter jejuni
Campylobacter spp
Cardiobacterium hominis
Chlamydia pneumoniae
Chlamydia trachomatis
Clostridium tetani
Corynebacterium diphtheriae
Corynebacterium minutissimum
Corynebacterium spp
Edwardsiella tarda
Ehrlichia sennetsu (Rickettsia sennetsu)
Ehrlichia spp
Elkenella corrodens
Enterobacter aerogenes/cloacae
Enterobacter spp
Enterococcus spp
Erysipelothrix rhusiopathiae
Escherichia coli (except non-pathogenic strains)
Flavobacterium meningosepticum
Fluoribacter bozemanae (Legionella)
Fusobacterium necrophorum

12/ The items in this list do not conform fully with the criteria for risk group II according to the classification in the 1983 World Health Organization (WHO) Laboratory Biosafety Manual but should be considered as doing so for the purposes of ongoing monitoring and verification activities in Iraq.

Gardnerella vaginalis
Haemophilus ducreyi
Haemophilus influenzae
Haemophilus spp
Helicobacter pylori
Klebsiella oxytoca
Klebsiella pneumoniae
Klebsiella spp
Legionella pneumophila
Legionella spp
Listeria ivanovii
Morganella morganii
Mycobacterium africanum
Mycobacterium chelonae
Mycobacterium fortuitum
Mycobacterium kansasii
Mycobacterium leprae
Mycobacterium malmoense
Mycobacterium marinum
Mycobacterium microti
Mycobacterium scrofulaceum
Mycobacterium simiae
Mycobacterium szulgai
Mycobacterium tuberculosis
Mycobacterium ulcerans
Mycobacterium xenopl
Mycoplasma pneumoniae
Neisseria gonorrhoeae
Neisseria meningitidis
Nocardia asteroides
Nocardia brasiliensis
Nocardia farcinica
Nocardia nova
Nocardia otitidiscaviarum
Pasteurella multocida
Peptostreptococcus anaerobius
Plesiomonas shigelloides
Porphyromonas spp
Proteus mirabilis
Proteus penneri
Proteus vulgaris
Providencia alcalifaciens
Providencia rettgeri
Providencia spp
Pseudomonas aeruginosa
Rhodococcus egui
Salmonella arizonae
Salmonella enteritidis
Salmonella typhimurium
Salmonella paratyphi A,B,C
Salmonella (other serovars)
Serpulina spp

Shigella boydii
Shigella flexneri
Shigella sonnel
Staphylococcus aureus
Streptobacillus moniliformis
Streptococcus pneumoniae
Streptococcus pyogenes
Streptococcus spp
Treponema carateum
Treponema pallidum
Treponema pertenue
Treponema spp
Vibrio parahaemolyticus
Vibrio spp
Yersinia pseudotuberculosis
Yersinia spp

Rickettsia

Rickettsia akari
Rickettsia canada
Rickettsia conorii
Rickettsia montana
Rickettsia spp
Rickettsia typhi (Rickettsia mooseri)
Rickettsia tsutsugamushi

Viruses

Absettarov
Acute haemorrhagic conjunctivitis virus
Adenoviridae
Astroviridae
Australia encephalitis (Murray Valley encephalitis)
BK and JC viruses
Buffalo pox virus
Bunyamwera virus
California encephalitis virus
Central European tick-borne encephalitis virus
Coltiviruses
Coronaviridae
Cow pox virus
Coxsackie viruses
Cytomega lovirus
Echo viruses
Elephant pox virus
Epstein-Barr virus
Hantaviruses
Hanzalova
Hazara virus
Hepatitis A virus (human enterovirus type 72)
Hepatitis B virus

Hepatitis C virus
Hepatitis D virus (Delta)
Herpes virus simiae (b virus)
Herpes simplex viruses types 1 and 2
Herpesvirus varicella-zoster
Human B-lymphotropic virus
Human Papillomaviruses
Human Parvovirus (B19)
Human Rotaviruses
Hypr
Influenza viruses types A,B and C
Kumlinge
Kyasanur Forest
Louping Ill
Measles virus
Milkers' node virus
Mopeia virus and other Tacaribe viruses
Mumps virus
Norwalk virus
Omsk
Orbiviruses
Orf virus
Oropouche virus
Other Bunvaviridae known to be pathogenic
Other Caliciviridae
Other Flaviviruses known to be pathogenic
Other Hantaviruses
Parainfluenza viruses types 1 to 4
Polioviruses
Powassan
Prospect Hill virus
Puumala virus
Rabbit pox virus
Reoviruses
Respiratory syncytial virus
Rhinoviruses
Rocio
Sandfly fever
Seoul virus
St. Louis Encephalitis
Tick-borne Orthomyxoviridae: Dhori and Thogoto viruses
Toscana virus
Vaccinia virus
Wesselsbron virus
West Mile fever virus
Yatapox virus (Tana & Yaba)

(B) OTHER ANIMAL PATHOGENS

Actinomyces spp
African horse sickness virus
Anaplasma marginale
Avian encephalomyelitis virus
Avian infectious bronchitis virus
Avian infectious laryngotracheitis virus
Avian leucosis virus
Babesia spp
Bacteroides nodosus
Bordetella bronchiseptica
Borrelia anserina
Bovine malignant catarrhal fever virus
Bovine virus diarrhoea virus
Campylobacter fetus
Canine distemper virus
Caprine arthritis/encephalitis virus
Clostridium chauvoei
Clostridium spp
Coccidia spp
Cochliomyia hominivorax
Corynebacterium pseudotuberculosis
Cowdria ruminantum
Cysticercus bovis
Cysticercus cellulosae
Dermatophilus congolensiae
Duck hepatitis virus
Duck virus enteritis virus
Echinococcus spp
Enzootic bovine leucosis virus
Equine herpesvirus 3
Equine infectious anaemia virus
Equine influenza virus type A
Equine rhinopneumonitis virus
Erynipelou rhosiopathiae
Fowl pox virus
Haemophilus equigenitaliom
Haemophilus paragallinarum
Histoplasma jaraiminosom
Horse pox virus
Hypoderma spp
Infectious arteritis virus
Infectious bovine rhinotracheitis virus
Infectious bursal disease virus
Leishmania spp
Leptospira spp
Listeria monocytogenes
Lumpy skin disease virus
Maedi-visna virus
Mareks disease virus
Mycobacterium avium

Mycobacterium bovis
Mycobacterium paratuberculosis
Mycoplasma agalactiae
Mycoplasma capricolum var capripneumoniae
Mycoplasma gallisepticum
Myxomatosis virus
Nairobi sheep disease virus
Pasteurella haemolytica
Pasteurella multocida
Pasteurella tularensis
Porcine enteroviruses
Psoroptes ovis
Rabies and rabies related viruses
Salmonella abortus equi
Salmonella abortus ovis
Salmonella gallinarum
Salmonella pullorum
Salmonella spp
Sheep pulmonary adenomatosis virus
Streptococcus equi
The agent of Bovine Spongiforme encephalopathy
The agent of porcine reproductive respiratory syndrome
The agent of scrapie
The agents of horse mange
Theileria spp
Toxoplasma gondii
Transmissible gastroenteritis virus
Trichinella spiralis
Trichomonas fetus
Trypanoroma evansi
Trypanosoma spp
Viral haemarrhagic disease of rabbits virus

(C) PLANT PATHOGENS

Citrus greening bacterium
Citrus tristeza closterovirus
Fusarium oxysporum f.sp. albedinis
Glomerella gossypii
Phymatotrichopsis omnivora
Pseudomonas solanacearum Race 2
Thecaphora solani
Tilletia indica
Xanthomonas oryzae pvs oryzae & oryzicola

Tricothecene-producing fungi including:

Fusarium poae
Fusarium sporotrichioides
Fusarium tricinctum
Micronectriella nivalis, anamorph
Microdochium nivale (Syn. Fusarium nivale)

(D) TOXINS

Toxins other than specified on List 1 with a molecular weight of more than 250 daltons.

(E) OTHER ORGANISMS

Eukaryotic (non-microbial) organisms which produce any toxin.

(F) GENETICALLY MODIFIED MICROORGANISMS, OTHER ORGANISMS AND GENETIC MATERIAL

1. The above listed microorganisms when they have been genetically modified.
2. Other genetically modified microorganisms or genetic material that contain nucleic acid sequences derived from any of the listed microorganisms, or that contain nucleic acid sequences associated with pathogenicity determinants of any listed microorganism; or that contain nucleic acid sequences associated with any listed toxin.
3. Genetically modified variants of eukaryotic (non-microbial) organisms which produce any toxin as above.

Revised annex IV to the Special Commission's Plan

Provisions related to missiles

1. The prohibitions under the Plan apply to any ballistic missiles or missile delivery systems (referred as "missile systems") capable of a range greater than 150 kilometres regardless of payload, and to any related major parts, including surface-to-surface missiles, space launch vehicles, sounding rockets, cruise missiles, target drones, reconnaissance drones, and other unmanned air vehicle systems and such other items as are identified below as being prohibited.

2. The following list contains equipment, other items and technologies capable of being used in the development, production, construction, modification or acquisition of missile systems capable of a range greater than 150 kilometres and shall therefore, in accordance with paragraph 40 of the Plan, be subject to ongoing monitoring and verification:

2.1 Complete subsystems usable in missile systems, 1/ as follows, and technologies, production facilities, and production equipment therefor:

2.1.1 Individual rocket stages;

2.1.2 Solid- or liquid-fuel rocket engines;

2.1.3 Guidance sets;

2.1.4 Thrust vector controls, including,

2.1.4.1 Flexible nozzles;
2.1.4.2 Fluid or secondary gas injection systems;
2.1.4.3 Movable engines or nozzles;
2.1.4.4 Deflection systems of the exhaust gas stream (e.g. jet vanes or probes); and
2.1.4.5 Thrust tabs.

2.1.5 Warhead or weapon safing, arming, fuzing and firing mechanisms.

2.2 Propulsion components and equipment, including components, equipment, 2/ propellant and constituent chemicals for propellants

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1/ Re-entry vehicles and equipment designed or modified therefor, are prohibited.

2/ Such components and equipment cover the following, and production facilities and production equipment therefor:

1. Ramjet/scramjet/pulse jet/combined cycle engines, including devices to regulate combustion, and components therefor;

usable in missile systems, and technology, production facilities and production equipment, 3/ as follows:

2.2.1 Rocket-motor cases and production equipment therefor including interior lining, insulation and nozzles, and the technology, the production facilities and production equipment therefor;

2.2.2 Staging mechanisms and production equipment therefor including separation mechanisms and interstages therefor, and clustering mechanisms, and the technology, production facilities and production equipment therefor;

2.2.3 Liquid-fuel control systems and components therefor including liquid and slurry propellant (including oxidizers) control systems, and components therefor, designed or modified to operate in vibration environments of more than 5 g RMS between 20 Hz and 2,000 Hz, and the technology, the production facilities and production equipment therefor and also including:

2.2.3.1 Servo valves designed for flow rates of 5 litres per minute or greater, at an absolute pressure of

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2. Hybrid rocket motors and components therefor.

3. Lightweight turbojet, turbofan and turbocompound engines that are small and fuel efficient, as follows:

a. Engines with both of the following characteristics:

i. Maximum thrust greater than 1000N (achieved un-installed) excluding civil certified engines with a maximum thrust greater than 8,890N (achieved un-installed), and

ii. Specific fuel consumption of 0.13kg/N/hr or less (at sea level static and standard conditions); or

b. Engines designed or modified for missile systems, regardless of thrust or specific fuel consumption.

3/ Production equipment also covers flow-forming machines, including machines combining the function of spin-forming and flow-forming, components and software therefor:

1. which, according to the manufacturer's technical specification, are capable of being equipped with numerical control units or a computer control, even when not equipped with such units at delivery, and

2. with more than two axes which are capable of being coordinated simultaneously for contouring control.

4,000 kPa (600 psi) or greater, with an actuator response time of less than 100 msec; 4/

2.2.3.2 Pumps, for liquid propellants, with shaft speeds equal to or greater than 6,000 RPM or with discharge pressures equal to or greater than 4,000 kPa (600 psi) or with a flow rate of 200 litres per minute or greater at atmospheric pressure. 5/

2.2.4 Propellants and constituent chemicals for propellants, including:

2.2.4.1 Propulsive substances:

2.2.4.1.1 Hydrazine with a concentration of more than 70 per cent and its derivatives including monomethylhydrazine (MMH);

2.2.4.1.2 Unsymmetric dimethylhydrazine (UDMH);

2.2.4.1.3 Ammonium perchlorate, and other solid oxidizers including salts of Nitroformic acid, Dinitroamines, Nitramines and Nitrocubanes;

2.2.4.1.4 Spherical aluminium powder with particles of uniform diameter of less than 500 x 10^{-6}m (500 micrometer) and an aluminium content of 97 per cent by weight or greater;

2.2.4.1.5 Metal fuels in particle sizes less than 500 x 10^{-6}m (500 microns), whether spherical, atomized, spheroidal, flaked or ground, consisting of 97 per cent by weight or more of any of the following: zirconium, beryllium, boron, magnesium, zinc, and alloys of these; Misch metal;

2.2.4.1.6 Nitro-amines cyclotetramethylene-tetranitramine (HMX), cyclotrimethylenetrinitramine (RDX);

4/ Servo valves designed for flow rates of 24 litres per minute or greater, at an absolute pressure of 7,000 kPa (1,000 psi) or greater, with an actuator response time of less than 100 msec are prohibited.

5/ Pumps, for liquid propellants, with shaft speeds equal to or greater than 8,000 RPM or with discharge pressures equal to or greater than 7,000 kPa (1,000 psi) or 450 litres per minute or greater at standard atmospheric pressure are prohibited.

2.2.4.1.7 Perchlorates, chlorates or chromates mixed with powdered metals or other high energy fuel components;

2.2.4.1.8 Carboranes, decaboranes, pentaboranes and derivatives thereof;

2.2.4.1.9 Liquid oxidizers, as follows:

2.2.4.1.9.1 Dinitrogen trioxide;

2.2.4.1.9.2 Nitrogen dioxide/dinitrogen tetroxide;

2.2.4.1.9.3 Dinitrogen pentoxide;

2.2.4.1.9.4 Inhibited Red Fuming Nitric Acid (IRFNA);

2.2.4.1.9.5 Compounds composed of fluorine and one or more of other halogens, oxygen or nitrogen;

2.2.4.1.9.6 Hydrogen peroxide with a concentration greater than 70 per cent.

2.2.4.2 Polymeric substances:

2.2.4.2.1 Carboxyl-terminated polybutadiene (CTPB);

2.2.4.2.2 Hydroxyl-terminated polybutadiene (HTPB);

2.2.4.2.3 Glycidyl azide polymer (GAP);

2.2.4.2.4 Polybutadiene-acrylic acid (PBAA);

2.2.4.2.5 Polybutadiene-acrylic acid-acrylonitrile (PBAN);

2.2.4.2.6 Oxetanes including polymers of nitro methyl oxetane (NIMMO), and 3,3 Bis (azidomethyl oxetane)(BAMO).

2.2.4.3 Propellants:

2.2.4.3.1 Composite propellants including case bonded propellants and propellants with nitrated binders;

2.2.4.3.2 Noncomposite propellants including double base propellants.

2.2.4.4 Other high energy density propellants, with an energy density of 40 x 10^6 joules/kg or greater, e.g. boron slurry.

2.2.4.5 Other propellant additives and agents:

2.2.4.5.1 Bonding agents as follows:

2.2.4.5.1.1 Tris(1-(2-methyl)aziridinyl) phosphine oxide (MAPO);

2.2.4.5.1.2 Trimesol-1(2-ethyl)aziridine (HX-868, BITA);

2.2.4.5.1.3 "Tepanol" (HX-878), reaction product of teraethylenepentamine, acrylonitrile and glycidol;

2.2.4.5.1.4 "Tepan" (HX-879), reaction production of tetlenepentamine and acrylonitrile;

2.2.4.5.1.5 Polyfunctional aziridene amides with isophthalic, trimesic, isocyanuric, or trimethyladipic backbone with a 2-methyl or 2-ethyl aziridine group (HX-752, H-874 and HX-877).

2.2.4.5.2 Curing agents and catalysts as follows:

2.2.4.5.2.1 Triphenyl bismuth (TPB);

2.2.4.5.3 Burning rate modifiers as follows:

2.2.4.5.3.1 Catocene;

2.2.4.5.3.2 N-butyl-ferrocene;

2.2.4.5.3.3 Butacene;

2.2.4.5.3.4 Other ferrocene derivatives.

2.2.4.5.4 Nitrate esters and nitratoplasticizers as follows:

2.2.4.5.4.1 Triethylene glycol dinitrate (TEGDN);

2.2.4.5.4.2 Trimethylolethane trinitrate (TMETN);

2.2.4.5.4.3 1, 2, 4-butanetriol trinitrate(BTTN);

2.2.4.5.4.4 Diethylene glycol dinitrate (DEGDN).

2.2.4.5.5 Stabilizers as follows:

2.2.4.5.5.1 2-nitrodiphenylamine;

2.2.4.5.5.2 N-methyl-p-nitroaniline.

2.2.5 Production technology or production equipment for missile propellants and propellant constituents and specially designed components therefor, including:

2.2.5.1 Production, handling or acceptance testing of liquid propellants or propellant constituents described in para. 2.2.4.

2.2.5.2 Production, handling, mixing, curing, casting, pressing, machining, extruding or acceptance testing of solid propellants or propellant constituents described in para. 2.2.4, including:

2.2.5.2.1 Batch mixers, capable of mixing under vacuum in the range of zero to 13.326 kPa and of controlling the temperature of the mixing chamber, and with a total volumetric capacity of 110 litre or more and at least one mixing/kneading shaft mounted off centre. 6/

2.2.5.2.2 Equipment for the production of atomized or spherical metallic powder in a controlled environment;

2.2.5.2.3 Fluid energy mills for grinding or milling ammonium perchlorate, RDX or HMX.

2.3 Guidance and control equipment, flight control systems, and avionics equipment.

6/ Such batch mixers with a total volumetric capacity of more than 210 litres are prohibited. Continuous mixers with the same pressure and temperature characteristic and with two or more mixing/kneading shafts and capacity to open the mixing chamber are also prohibited.

2.3.1 Gyroscopes, accelerometers and inertial equipment, 7/ including instrumentation, navigation and direction finding equipment and systems, and production and test equipment therefor, as follows, and components and software therefor:

2.3.1.1 Integrated flight instrument systems, including gyrostabilizers or automatic pilots and integration software therefor, usable in missile systems;

2.3.1.2 Gyro-astro compasses and other devices which derive position or orientation by means of automatically tracking celestial bodies or satellites;

2.3.1.3 Accelerometers with a threshold of 0.5 g or less, or a linearity error of less than 0.25 per cent of full scale output, or both, designed for use in inertial navigation systems or in guidance systems of all types except those specially designed and developed as MWD (Measurement While Drilling) Sensors for use in downhole well service operations;

2.3.1.4 All types of gyros usable in missile systems, with a rated drift rate stability of less than 5 degrees (1 sigma or rms) per hour in a 1 g environment;

2.3.1.5 Inertial or other equipment using accelerometers described by para 2.3.1.3 or gyros described by para 2.3.1.4, and systems incorporating such equipment, and integration software therefor;

2.3.1.6 Test, calibration, and alignment equipment, and production equipment for items specified in 2.3.1.1 to 2.3.1.5 above, including:

2.3.1.6.1 For laser gyro equipment, the following equipment used to characterize mirrors, with the threshold accuracy shown or better:

2.3.1.6.1.1 Scatterometer (10 ppm);

2.3.1.6.1.2 Reflectometer (50 ppm);

2.3.1.6.1.3 Profilometer (5 Angstroms).

2.3.1.6.2 For other inertial equipment:

7/ Continuous output accelerometers or gyros of any type, designed to function at acceleration levels greater than 100 g, are prohibited.

2.3.1.6.2.1 Inertial Measurement Unit (IMU Module) Tester;

2.3.1.6.2.2 IMU Platform Tester;

2.3.1.6.2.3 IMU Stable Element Handling Fixture;

2.3.1.6.2.4 IMU Platform Balance fixture;

2.3.1.6.2.5 Gyro Tuning Test Station;

2.3.1.6.2.6 Gyro Dynamic Balance Station;

2.3.1.6.2.7 Gyro Run-In/Motor Test Station;

2.3.1.6.2.8 Gyro Evacuation and Filling Station;

2.3.1.6.2.9 Centrifuge Fixture for Gyro Bearings;

2.3.1.6.2.10 Accelerometer Axis Align Station;

2.3.1.6.2.11 Accelerometer Test Station.

2.3.2 Flight control systems and technology, as follows, designed or modified for use in missile systems and the test, calibration, and alignment equipment therefor:

2.3.2.1 Hydraulic, mechanical, electro-optical, or electro-mechanical flight control systems (including fly-by-wire systems);

2.3.2.2 Attitude control equipment;

2.3.2.3 Design technology for integration of air vehicle fuselage, propulsion system and lifting control surfaces to optimize aerodynamic performance throughout the flight regime of an unmanned air vehicle;

2.3.2.4 Design technology for integration of the flight control, guidance, and propulsion data into a flight management system for optimization of rocket system trajectory.

2.3.3 Avionics equipment, 8/ technology and components, as follows, designed or modified for use in missile systems, and software therefor:

2.3.3.1 Radar and laser radar systems, including altimeters;

2.3.3.2 Passive sensors for determining bearings to specific electromagnetic sources (direction finding equipment) or terrain characteristics;

2.3.3.3 Global Positioning System (GPS) or similar satellite receivers;

2.3.3.3.1 Capable of providing navigation information at speeds in excess of 515 m/sec (1,000 nautical miles/hour) and at altitudes in excess of 18 km (60,000 feet); or

2.3.3.3.2 Designed or modified for use with missile systems.

2.3.3.4 Electronic assemblies and components designed, modified, tested, certified, or screened for military use and operation at temperatures in excess of 125° C.

2.3.3.5 Design technology for protection of avionics and electrical subsystems against electromagnetic pulse (EMP) and electromagnetic interference (EMI) hazards from external sources, as follows:

2.3.3.5.1 Design technology for shielding systems;

2.3.3.5.2 Design technology for the configuration of hardened electrical circuits and subsystems;

2.3.3.5.3 Determination of hardening criteria for the above.

2.4 Equipment and technology for the production of structural composites usable in missile systems, as follows, and components, accessories and

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8/ Including:

1. Terrain contour mapping equipment;
2. Scene mapping and correlation (both digital and analog) equipment;
3. Doppler navigation radar equipment;
4. Passive interferometer equipment;
5. Imaging sensor equipment (both active and passive).

software therefor, and structural materials usable in missile systems as follows:

2.4.1 Filament winding machines for which the motions for positioning, wrapping and winding fibres are capable of being coordinated and programmed in three or more axes, designed to fabricate composite structures or laminates from fibrous or filamentary materials, and coordinating and programming controls;

2.4.2 Tape-laying machines for which the motions for positioning and laying tape and sheets are capable of being coordinated and programmed in two or more axes, designed for the manufacture of composite airframes and missile structures;

2.4.3 Multi-directional, multi-dimensional weaving machines or interlacing machines, including adapters and modification kits for weaving, interlacing or braiding fibres to manufacture composite structures, except textile machinery not modified for the above end uses;

2.4.4 Equipment designed or modified for the production of fibrous or filamentary materials as follows:

2.4.4.1 Equipment for converting polymeric fibres (e.g. polyacrylonitrile, rayon or polycarbosilane) including special provision to strain the fibre during heating;

2.4.4.2 Equipment for the vapour deposition of elements or compounds on heated filament substrates; and

2.4.4.3 Equipment for the wet-spinning of refractory ceramics (such as aluminium oxide);

2.4.5 Equipment designed or modified for special fibre surface treatment and equipment designed or modified for producing prepregs and preforms, including:

2.4.5.1 Rollers;

2.4.5.2 Tension stretchers;

2.4.5.3 Coating equipment;

2.4.5.4 Cutting equipment; and

2.4.5.5 Clicker dies.

2.4.6 Technical data (including processing conditions) and procedures for the regulation of temperature, pressures or atmosphere in autoclaves or hydroclaves in the production of composites or partially processed composites.

2.4.7 Components and accessories for the machines, including moulds, mandrels, dies, fixtures and tooling for the preform pressing, curing, casting, sintering or bonding of composite structures, laminates and manufactures thereof.

2.4.8 Structural materials usable in missile systems, as follows:

2.4.8.1 Composite structures, laminates, and manufactures thereof, designed or modified for missile systems or the subsystems in para 2.1, and resin impregnated fibre prepregs using resins with a glass transition temperature (T_g), after cure, exceeding 145° C as determined by ASTM D4065 or national equivalents, and metal-coated fibre preforms therefor, made either with organic matrix or metal matrix utilizing fibrous or filamentary reinforcements with a specific tensile strength greater than 7.62×10^4 m (3×10^6 inches) and a specific modulus greater than 3.18×10^6 m (1.25×10^8 inches);

2.4.8.2 Resaturated pyrolized (i.e., carbon-carbon) materials designed for missile systems;

2.4.8.3 Fine grain recrystallized bulk graphites (with a bulk density of at least 1.72 g/cc measured at 15° C and having a particle size of 100 x 10-6m (100 microns) or less), pyrolytic, or fibrous reinforced graphites usable for rocket nozzles and reentry vehicle nose tips;

2.4.8.4 Ceramic composite materials (dielectric constant less than 6 at frequencies from 100 Hz to 10,000 MHz) for use in missile radomes, and bulk machinable silicon carbide reinforced unfired ceramic usable for nose tips;

2.4.8.5 Tungsten, molybdenum and alloys of these metals in the form of uniform spherical or atomized particles of 500 micrometer diameter or less with a purity of 97 per cent or higher for fabrication of rocket motor components, including heat shields, nozzle substrates, nozzle throats and thrust vector control surfaces;

2.4.8.6 Maraging steels (steels generally with high nickel, very low carbon content and using substitutional elements or precipitates to produce age-hardening) with an ultimate tensile strength of 1.5×10^9 Pa or greater, measured at 20° C in the form of sheet, plate or tubing with a wall or plate thickness equal to or less than 5.0 mm (0.2 inch).

2.5 Pyrolytic deposition and densification equipment and technology as follows:

2.5.1 Technology for producing pyrolytically derived materials formed on a mould, mandrel or other substrate from precursor gases which decompose in the 1,300° C to 2,900° C temperature range at pressures of 130 Pa (1 mm Hg) to 20 kPa (150 mm Hg) including technology for the composition of precursor gases, flow-rates and process control schedules and parameters;

2.5.2 Nozzles for the above processes;

2.5.3 Equipment and process controls, and software therefor, designed or modified for densification and pyrolysis of structural composites, including:

2.5.3.1 Isostatic presses with a maximum working pressure of 69 MPa (10,000 psi) or greater and designed to achieve and maintain a controlled thermal environment of 600° C or greater, and possessing a chamber cavity with an inside diameter of 254 mm (10 inches) or greater;

2.5.3.2 Chemical vapour deposition furnaces designed or modified for the densification of carbon-carbon composites.

2.6 Launch and ground support equipment, facilities and software usable for missile systems, as follows:

2.6.1 Apparatus and devices designed or modified for the handling, control, activation and launching of missile systems;

2.6.2 Vehicles designed or modified for the transport, handling, control, activation and launching of missile systems;

2.6.3 Gravity meters (gravimeters), gravity gradiometers, and specially designed components therefor, designed or modified for airborne or marine use, and with a static or operational accuracy of 7×10^{-6} m/sec^2 (0.7 milligal) or better, and a time to steady-state registration of two minutes or less;

2.6.4 Telemetering and telecontrol equipment usable for missile systems;

2.6.5 Precision tracking systems, including:

2.6.5.1 Tracking systems 9/ using a code translator or transponder installed on the missile systems and either surface or airborne references or navigation satellite systems to provide real time measurements of in-flight position and velocity;

2.6.5.2 Range instrumentation radars 10/ including associated optical/infrared trackers and the software therefor with an angular resolution better than 3 milli-radians (0.5 mils), and a range of 30 km or greater with a range resolution better than 10 metres RMS, and a velocity resolution better than 3 metres per second; and

2.6.5.3 Software with post-flight, recorded data, for the determination of vehicle position throughout its flight path.

2.7 Analog computers, digital computers or digital differential analyzers and analog-to-digital converters, including:

2.7.1 Analog computers, digital computers, or digital differential analyzers usable in missile systems, having either of the following characteristics:

2.7.1.1 Rated for continuous operation at temperatures from below minus 45° C to above plus 55° C; or

2.7.1.2 Designed as ruggedized or radiation hardened; and

2.7.2 Analog-to-digital converters, usable in missile systems, with either of the following characteristics:

2.7.2.1 Designed to meet military specifications for ruggedized equipment; or,

2.7.2.2 Designed, modified, tested, certified or screened for military use, and being one of the following types:

2.7.2.2.1 Analog-to-digital converter microcircuits, with a resolution of 8 bits or more or which are radiation-hardened; and are rated for operation in the temperature range from below minus 45° C to above plus 125° C; and are hermetically sealed; and

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9/ Tracking systems specified in para. 2.6.5.1 with a range greater than 150km are prohibited.

10/ Range instrumentation radars specified in para. 2.6.5.2 with a range greater than 150km are prohibited.

2.7.2.2.2 Electrical input type analog-to-digital converter printed circuit boards or modules, with having a resolution of 8 bits or more, which are rated for operation in the temperature range from below minus 45° C to above plus 55° C, and which incorporate microcircuits listed in paragraph 2.7.2.2.1.

2.8 Test facilities and equipment usable for missile systems or sub-systems, as follows, and software therefor:

2.8.1 Vibration test systems and components therefor, as follows:

2.8.1.1 Vibration test systems using feedback or closed loop techniques and a digital controller, capable of vibrating a system at 10g RMS or more over the entire range 20 Hz to 2000 Hz and imparting forces of 25 kN (5,625 lbs), measured "bare table", or greater;

2.8.1.2 Digital controllers, which use specially designed vibration test software, with a real-time bandwidth greater than 5 kHz and designed for use with vibration test systems in paragraph 2.8.1.1;

2.8.1.3 Vibration thrusters (shaker units), with or without associated amplifiers, capable of imparting a force of 25 kN (5,625 lbs), measured "bare table", or greater, and usable in vibration test systems in paragraph 2.8.1.1;

2.8.1.4 Test piece support structures and electronic units designed to combine multiple shaker units into a complete shaker system capable of providing an effective total force of 25kN, measured "bare table", or greater, and usable in vibration test systems in paragraph 2.8.1.1.

2.8.2 Wind-tunnels;

2.8.3 Test benches/stands capable of handling solid or liquid propellant rockets or rocket motors of more than 10 kN of thrust, or capable of simultaneously measuring the three axial thrust components;

2.8.4 Environmental chambers and anechoic chambers capable of simulating the following flight conditions at altitudes of 15,000 meters or greater, or at temperatures of at least minus 50° C to plus 125° C, and either vibration environments of 10 g RMS or greater between 20 Hz and 2,000 Hz imparting forces of 5 kN or greater, for environmental chambers, or acoustic environments at an overall sound pressure level of 140 dB or

greater (referenced to 2 x 10-5 N per square metre) or with a rated power output of 4 kiloWatts or greater, for anechoic chambers.

2.8.5 Accelerators except those specially designed for medical purposes, capable of delivering electromagnetic radiation produced by "Bremsstrahlung" from accelerated electrons of 2 MeV or greater, and systems containing those accelerators.

2.9 Software, or software with related specially designed hybrid (combined analogue/digital) computers, for modelling (including in particular the aerodynamic and thermodynamic analysis of the systems), simulation, or design integration of missile systems or subsystems.

2.10 Materials, devices, and software for reduced observables (e.g. radar reflectivity, ultraviolet/infrared signatures and acoustic signatures, i.e. stealth technology), for applications usable for missile systems or subsystems including:

2.10.1 Structural materials and coatings specially designed for reduced radar reflectivity;

2.10.2 Coatings, including paints, specially designed for reduced or tailored reflectivity or emissivity in the microwave, infrared or ultraviolet spectra;

2.10.3 Software or databases for analysis of signature reduction;

2.10.4 Radar cross section measurement systems.

2.11 Material and devices for protecting missile systems against nuclear effects (e.g. Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), as follows:

2.11.1 Radiation Hardened microcircuits and detectors;

2.11.2 Radomes designed to withstand a combined thermal shock greater than 100 cal/sq cm accompanied by a peak over pressure of greater than 50 kPa.

3. The initial information under paragraph 43 of the Plan to be provided not later than 30 days after the adoption of the Plan by the Security Council shall cover the period from 1 January 1988. Subsequent information shall be provided each 15 January and 15 July and shall cover the six-month period prior to the provision of the information. Notifications under paragraph 44 of the Plan shall be provided not later than 14 days prior to the date of launch.

4. Whenever the information which Iraq is required to provide under section E of the Plan and this annex is equal to nil, Iraq shall provide nil returns.

5. The information on sites or facilities to be provided under section E of the Plan shall for each site or facility include:

5.1 The name of the site or facility and of the owner, company or enterprise operating the site or facility;

5.2 The location of the site or facility;

5.3 The sources and amounts of the financing of the site or facility, and of its activities;

5.4 A general description of all types of activities at the site or facility;

5.5 List of equipment, other items and technologies specified in paragraph 1 of this annex used or present at the site or facility and their quantities;

5.6 A detailed description of activities related to the equipment, other items and technologies specified in paragraph 1 of this annex.

6. The location of a site or facility shall be specified by means of the address and site diagram. Each diagram shall be drawn to scale and shall indicate the boundaries of the site or facility, all road and rail entrances and exits and all structures on the site or facility, indicating their purpose. If the site or facility is located within a larger complex, the diagram shall specify the exact location of the site or facility within the complex. On each diagram, the geographic coordinates of a point within the site or facility shall be specified to the nearest second.

7. The information on each import to be provided under section E of the Plan shall include:

7.1 Specification of each item and the quantity imported and the purpose of its use in Iraq;

7.2 Country of origin of each item and the quantity imported and the purpose of its use in Iraq;

7.3 Point or port and time of entry of the item in Iraq;

7.4 Project and site or facility where it is to be used;

7.5 Name of the specific importing organization in Iraq.